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# **AUTHORITY**

darpa ltr 6 dec 1972

Ionospheric Data Report - March 1965

IONOSPHERIC DATA: BANGKOK, THAILAND

Compiled by: VICHA: T. NIMIT



Preparen for:

U.S. ARMY ELECTRONICS LABORATORIES FORT MONMOUTH, NEW JERSEY

CONTRACT DA-36-039-AMC-00040(E) ORDER NO. 5384-PM-63-91

SPONSORED BY THE ADVANCED RESEARCH PROJECTS AGENCY
FOR THE
THAILU.S. MILITARY RESEARCH AND DEVELOPMENT CENTER
SUPREME COMMAND HEADQUARTERS
BANGKOK, THAILAND





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SRI Project 4240

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## CONTENTS

																									3 3
																									4
-																									4
																									5
•					-	-																			6
IONOSPHERIC	DATA																								7
f min																									7
f o F2																									8
$M(3000) F_2$																									9
h																									10
h' F																									11
foFi																									12
$M(3000) F_1$																									13
f <sub>o</sub> E																									14
h' E																									15
fb Es	. <b>.</b>																			. ,					16
foEs																									17
h <sup>†</sup> E <sub>s</sub>																									18
Types of E.			. ,																						19
Median Values									• •									•							20
			•			m			• •																
			11	بلد	US	TI	K.F	ΥT	10	N:	5														
	A. Terminolog B. Descriptive C. Qualifying D. Description E. Multiple Re  IONOSPHERIC fmin foF2 M(3000)F2 h'F2 h'F foF1 M(3000)F1 foE h'E fbEs foEs h'Es Types of Es	A. Terminology B. Descriptive Letter C. Qualifying Letter D. Description of St E. Multiple Reflection  IONOSPHERIC DATA  fmin foF2 M(3000)F2 h'F2 h'F foF1 M(3000)F1 foE h'E foE foE foE foE foE foE foE foE foE fo	A. Terminology B. Descriptive Letters C. Qualifying Letters D. Description of Stanc E. Multiple Reflections  IONOSPHERIC DATA  fmin foF2 M(3000)F2 h'F2 h'F h'F foF1 M(3000)F1 foE h'E fbEs foEs h'Es Types of Es	A. Terminology B. Descriptive Letters C. Qualifying Letters D. Description of Standar E. Multiple Reflections for  IONOSPHERIC DATA  fmin foF2 M(3000) F2 h' F2 h' F foF1 M(3000) F1 foE h' E fb	A. Terminology B. Descriptive Letters C. Qualifying Letters D. Description of Standard E. Multiple Reflections from IONOSPHERIC DATA  f min f o F2 M(3000) F2 h' F2 h' F f o F1 M(3000) F1 f o E h' E f b E f o E h' E Median Values	A. Terminology B. Descriptive Letters C. Qualifying Letters D. Description of Standard Ty E. Multiple Reflections from  IONOSPHERIC DATA  fmin foF2 M(3000) F2 h' F2 h' F foF1 M(3000) F1 foE h' E fb	A. Terminology B. Descriptive Letters C. Qualifying Letters D. Description of Standard Type E. Multiple Reflections from E  IONOSPHERIC DATA  fmin foF2 M(3000) F2 h' F2 h' F foF1 M(3000) F1 foE h' E fb E fb E foE h' E Median Values	A. Terminology B. Descriptive Letters C. Qualifying Letters D. Description of Standard Types E. Multiple Reflections from Es  IONOSPHERIC DATA  fmin foF2 M(3000) F2 h' F2 h' F foF1 M(3000) F1 foE h' E fb Es foEs h' Es Types of Es Median Values	A. Terminology B. Descriptive Letters C. Qualifying Letters D. Description of Standard Types of E. Multiple Reflections from Es  IONOSPHERIC DATA  fmin foF2 M(3000) F2 h' F2 h' F foF1 M(3000) F1 foE h' E foEs foEs h' Es Types of Es Median Values	A. Terminology B. Descriptive Letters C. Qualifying Letters D. Description of Standard Types of E E. Multiple Reflections from E S  IONOSPHERIC DATA  fmin foF2 M(3000) F2 h' F2 h' F foF1 M(3000) F1 foE h' E fb E s foE h' E s Types of E s Median Values	A. Terminology B. Descriptive Letters C. Qualifying Letters D. Description of Standard Types of Es E. Multiple Reflections from Es  IONOSPHERIC DATA  fmin foF2 M(3000) F2 h' F2 h' F foF1 M(3000) F1 foE h' E fb Es foEs h' Es Types of Es Median Values	A. Terminology B. Descriptive Letters C. Qualifying Letters D. Description of Standard Types of Es E. Multiple Reflections from Es  IONOSPHERIC DATA  fmin foF2 M(3000) F2 h' F2 h' F foF1 M(3000) F1 foE h' E fb Es foEs h' Es Types of Es	A. Terminology B. Descriptive Letters C. Qualifying Letters D. Description of Standard Types of Es E. Multiple Reflections from Es  IONOSPHERIC DATA  fmin foF2 M(3000) F2 h' F2 h' F foF1 M(3000) F1 foE h' E fb Es foEs h' Es Types of Es Median Values	A. Terminology B. Descriptive Letters C. Qualifying Letters D. Description of Standard Types of Es E. Multiple Reflections from Es  IONOSPHERIC DATA  fmin foF2 M(3000) F2 h' F2 h' F foF1 M(3000) F1 foE h' E fb Es foEs h' Es Types of Es Median Values	A. Terminology B. Descriptive Letters C. Qualifying Letters D. Description of Standard Types of Es E. Multiple Reflections from Es  IONOSPHERIC DATA  fmin foF2 M(3000)F2 h'F2 h'F foF1 M(3000)F1 foE h'E fbEs foEs h'Es Types of Es Median Values	A. Terminology B. Descriptive Letters C. Qualifying Letters D. Description of Standard Types of Es E. Multiple Reflections from Es  IONOSPHERIC DATA  fmin foF2 M(3000)F2 h'F2 h'F2 h'F foF1 M(3000)F1 foE h'E fbEs foEs h'Es Types of Es Median Values	A. Terminology B. Descriptive Letters C. Qualifying Letters D. Description of Standard Types of Es E. Multiple Reflections from Es  IONOSPHERIC DATA  fmin foF2 M(3000)F2 h'F2 h'F foF1 M(3000)F1 foE h'E foEs h'Es Types of Es Median Values	A. Terminology B. Descriptive Letters C. Qualifying Letters D. Description of Standard Types of Es E. Multiple Reflections from Es  IONOSPHERIC DATA  fmin foF2 M(3000)F2 h'F2 h'F foF1 M(3000)F1 foE h'E foEs h'Es Types of Es Median Values	A. Terminology B. Descriptive Letters C. Qualifying Letters D. Description of Standard Types of Es E. Multiple Reflections from Es  IONOSPHERIC DATA  fmin foF2 M(3000)F2 h'F2 h'F foF1 M(3000)F1 foE h'E fb Es foEs h'Es Types of Es Median Values	A. Terminology B. Descriptive Letters C. Qualifying Letters D. Description of Standard Types of Es E. Multiple Reflections from Es  IONOSPHERIC DATA  f min f o F2 M(3000) F2 h' F2 h' F f o F1 M(3000) F1 f o E h' E f b Es f o Es h' Es Types of Es Median Values	A. Terminology B. Descriptive Letters C. Qualifying Letters D. Description of Standard Types of Es E. Multiple Reflections from Es  IONOSPHERIC DATA  f min f o F2 M(3000) F2 h' F2 h' F f o F1 M(3000) F1 f o E h' E f b Es f o Es h' Es Types of Es Median Values	A. Terminology B. Descriptive Letters C. Qualifying Letters D. Description of Standard Types of Es E. Multiple Reflections from Es  IONOSPHERIC DATA  fmin foF2 M(3000)F2 h'F2 h'F foF1 M(3000)F1 foE h'E fb Es foEs h'Es M'Es Types of Es Median Values	A. Terminology B. Descriptive Letters C. Qualifying Letters D. Description of Standard Types of Es E. Multiple Reflections from Es  IONOSPHERIC DATA  fmin foF2 M(3000)F2 h'F2 h'F foF1 M(3000)F1 foE h'E fb Es foEs h'Es Types of Es Median Values	A. Terminology B. Descriptive Letters C. Qualifying Letters D. Description of Standard Types of Es E. Multiple Reflections from Es  IONOSPHERIC DATA  fmin foF2 M(3000)F2 h'F2 h'F foF1 M(3000)F1 foE h'E fb Es foEs h'Es M'Es Types of Es Median Values	B. Descriptive Letters C. Qualifying Letters D. Description of Standard Types of Es E. Multiple Reflections from Es  IONOSPHERIC DATA  fmin foF2 M(3000)F2 h'F2 h'F foF1 M(3000)F1 foE h'E fb Es foEs h'Es M'Es Types of Es Median Values

## I INTRODUCTION

Jenospheric observations are being carried out at the Laboratory of the Military Research and Development Center at Bangkok, Thailand, a joint United States-Thailand organization. A Model C-2 vertical-incidence sounder supplied and operated by the United States Army Radio Propagation Agency has been installed there. Table I gives pertinent information about the site.

Table I

VERTICAL-INCIDENCE SOUNDER SITE

AT BANGKOK, THAILAND

Geog		Geoma	ngnetic
Latitude	Longitude	Latitude	Longitude
13.73°N	100.57°E	2.5°N	169.83°E

Dip angle: 10°N

Distance from dip equator: 450 km

Equipment:

Instrument: Type C2 (automatic)

PRF: 60 pps

Frequency sweep time: 30 sec

Frequency sweep range: 1 to 25 Mc

Pulse duration: 50 µsec

Peak pulse power: approximately 10 kw.

The cooperation and participation of staff members of the Thailand

Ministry of Defense and the support of the United States Advanced Research

Projects Agency, the United States Army Electronics Laboratories, and the United States Army Radio Propagation Agency made it possible for the data presented in this report to be accumulated.

### II TERMINOLOGY AND SYMBOLS

The terminology and symbols used in this data report are in accordance with the conventions established by the World Wide Soundings Committee.<sup>1</sup>

### A. TERMINOLOGY

foF2	The ordinary wave critical frequency for the F2 and F1 layers
foF1	and the E region, respectively.
foE \	

- $f_{\circ}E_{\bullet}$  The ordinary wave top frequency corresponding to the highest frequency at which a mainly continuous  $E_{\bullet}$  trace is observed.
- The blanketing frequency of an Es layer, i.e., the lowest ordinary wave frequency at which the Es layer begins to become transparent. (This is usually determined from the minimum frequency at which reflections from layers at greater heights are observed.)
- fmin The frequency below which no echoes are observed.
- $M(3000)F_2$  The maximum usable frequency factor for a path of 3000 km for transmission by the  $F_2$  layer.
- h' F2 The minimum virtual height of the ordinary wave trace for the highest stable stratification in the F region.
- h'F The most significant F-region virtual height parameter, that for the lowest F-region stratification. (Thus h'F is identical with the current h'F2 when F-region stratification is absent, i.e., at night, and with current h'F1 when F1 stratification is present.)

<sup>&</sup>lt;sup>1</sup>V. R. Piggott and K. Rawer, <u>URSI Handbook of Ionogram Interpretation and Reduction of the World Wide Sounding Committee</u> (Elsevier Publishing Company, Amsterdam, London, New York, 1961).

#### B. DESCRIPTIVE LETTERS

Certain effects observed on ionograms may make it difficult or impossible to obtain accurate numerical values. The descriptive letters listed below, when used alone indicate, in general, the presence of a phenomenon that may have influenced the measurement. Qualifying letters (Sec. C) indicate the nature of the uncertainty.

- A A lower thin layer present, e.g., Es
- B Absorption in the vicinity of fmin
- C Any non-ionospheric reason
- D The upper limit of the normal frequency range
- E The lower limit of the normal frequency range
- F Spread echoes present
- G Ionization density of the layer too small for measurement
- H Stratification present
- L No sufficiently definite cusp between layers of the trace
- M Ordinary and extraordinary components indistinguishable
- N Conditions such that the measurement cannot be interpreted
- O Measurement referring to the ordinary component
- R Attenuation in the vicinity of a critical frequency
- S Interference or atmospherics
- T Value determined by a sequence of observations, the actual observation being inconsistent or doubtful
- V Forked trace
- W Echo lying outside the height range recorded
- X Measurement referring to the extraordinary component
- Y Intermittent trace
- Z Third magneto-ionic component present.

## C. QUALIFYING LETTERS

- D Greater than. . .
- E Less than. . .

- I An interpolated value
- J Ordinary component characteristic deduced from the extraordinary component
- O Extraordinary component characteristic deduced from the ordinary component
- T Value determined by a sequence of observations, the actual observation being inconsistent or doubtful
- U Uncertain numerical value
- Z Measurement deduced from the third magneto-ionic component.

## D. DESCRIPTION OF STANDARD TYPES OF

The eight standard types of Es are identified by lower-case letters: f, l, c, h, q, r, a, and s. These letters suggest the corresponding names, flat, low, cusp, high, equatorial, retardation, auroral, and slant, respectively, but are not restrictive. The letter n is used to designate an Es trace that does not correspond to one of the eight types. The classifications are:

- f An Es trace showing no appreciable increase of height with frequency, usually relatively solid at most latitudes. (This classification may be used only at night; it appears that flat Es traces observed in the daytime are classified according to their virtual height: h or l.)
- 1 A flat E<sub>s</sub> trace at or below the normal E-region minimum virtual height in the day or below the E-region minimum virtual height at night.
- c An E<sub>5</sub> trace showing a relatively symmetrical cusp at or below f<sub>6</sub> E. (This is usually continuous with the normal E trace, although when the deviative absorption is large, part or all of the cusp may be missing—usually a daytime type.)
- h An Es trace showing a discontinuity in height with the normal E-region trace at or above fo E and an asymmetrical cusp. (The low-frequency end of the Es trace lies clearly above the high-frequency end of the normal E trace—usually a daytime type.)
- q An E<sub>s</sub> trace that is diffuse and nonblanketing over a wide frequency range, the spread being most pronounced at the upper edge of the trace. (This type is common in daytime in the vicinity of the magnetic equator.)
- r An Es trace that is nonblanketing over part or all of its frequency range, showing an increase in virtual height at the high-frequency

end similar to group retardation. (This is distinguished from the usual group retardation—as in the case of an occulting thick E region—by the lack of group retardation in the F traces at corresponding frequencies and the lack of complete blanketing.)

- a An E<sub>8</sub> pattern l.aving a well-defined flat or gradually rising lower edge with stratified and diffuse (spread) traces present above it. (These sometimes extend over several hundred kilometers of virtual height.)
- s A diffuse Es trace that rises steadily with frequency, usually emerging from another type of Es trace. (The rising trace alone is classified as s; the horizontal trace is classified separately. At high latitudes, the slant trace usually starts to rise from a horizontal Es trace, such as lor f, at frequencies that greatly exceed the E-region critical frequency, e.g., about 6 Mc; whereas at low latitudes it usually rises from equatorial-type Es, q, c, or h, at frequencies near the regular E critical frequency. Type s is never used to determine for Eunless echoes clearly identifiable as Es echoes are seen.)
- An E trace that cannot be classified as one of the standard types. (This must not be used for intermediate cases between any two classes. A choice should always be made whenever possible, even if it is doubtful.)

#### E. MULTIPLE REFLECTIONS FROM Es

When the ionogram shows the presence of multiple reflections from Es, the number of traces seen will be recorded with the letter indicating the type.

Characteristic: fmin

IONOSPHERIC DA Sweep: 1 Mc to 25 Mc in

March 1965

Observed at: Bangkok, Thailand Lat. 13.73°N, Long. 100.57°E 105°E Mean Time (GMT + 7 hours)

Hour	00	01	02	03	04	05	06	07	08	09	10	11
Date												
1	c	C	С	С	С	С	С	С	С	С	C	С
2	С	С	C	С	С	С	С	С	С	C	C	С
3	С	С	C	С	С	С	С	С	С	C	С	С
4	С	С	С	С	C	С	С	С	С	С	С	C
5	С	С	С	С	C	С	С	С	С	С	С	С
6	c	С	С	С	С	С	С	С	С	С	С	C
7	c	С	C	0	С	С	(	C	С	С	С	C
8	С	С	С	С	С	С	С	С	С	С	С	С
9	c !	С	С	С	С	С	С	С	С	С	С	С
10	С	C	С	С	С	С	С	С	С	С	С	C
11	С	С	С	С	С	С	С	c	С	С	С	С
12	С	C	С	C	С	С	С	C	С	С	С	C
13	С	С	С	С	С	С	С	С	С	С	С	С
14	E028C	<b>E</b> 019℃	013	013	012	E019C	В	E025C	E029C	E032C	EC36C	E031C
15	E020C	E015	011	011	01.5	020	В	025	030	034	E04.3C	041
16	E025S	E023	014	014	015	016	E027S	E030S	E027S	E031S	E031S	E030S
17	024	022	021	021	020	022	В	023	024	E027S	E029S	E0285
18	E022S	015	013	011	011	014	E024S	E024S	E028S	E028S	033	041
19	E020S	014	C13	011	С	С	С	l c	С	С	С	С
20	018	015	014	012	013	015	024	E029S	030	035	033	E030S
21	023	015	015	012	013	216	E025S	E025S	031	033	036	036
22	018	013	015	015	015	115	028	E030S	E0298	033	С	045
23	015	013	012	012	014	<b>υ1</b> 5	E019S	020	028	030	С	035
24	917	015	013	011	013	В	020	023	028	032	029	031
25	014	013	011	011	E	014	020	020	019	023	028	028
26	017	014	011	012	012	E015S	020	020	028	032	E027S	930
27	016	015	011	E	011	E015S	E018S	021	027	031	034	029
28	023	014	014	012	011	017	020	024	028	E028S	033	029
29	016	015	C12	012	013	E015S	E019S	023	028	031	035	034
30	018	015	014	012	E	E016S	019	020	028	024	035	E030S
31	022	014	014	013	E	F016S	E017S	020	02J	024	С	С
Modian					01.0		000					11.1
Median	019	015	013	012	013	015	020	023	028	031	033	030
Count	18	18	18	17	14	16	14	17	17	17	14	16
ŬQ	023	015	014	013	015	016	024	025	029	032	035	035
LQ	017	014	012	011	012	015	019	020	027	038	029	030
QR	6	i	2	2	3	1	5	5	2	4	6	5
						L	L		<u> </u>	L		

<sup>\*</sup> labulation of 031 = 3.1 Mc.

NOSPHERIC DATA to 25 Mc in 0.5 minute

10	11	12	13	14	15	16	17	18	19	20	21	22	23
C	С	С	С	С	С	С	С	С	С	С	С	С	С
С	С	С	С	С	С	С	С	С	С	Č.	С	С	C
C	С	С	С	С	С	С	C	С	С	С	С	С	С
С	C	G	С	С	С	С	С	С	С	С	С	С	С
C	C	С	C	С	С	С	С	С	С	С	С	С	С
С	С	С	С	С	С	С	С	С	С	С	С	С	С
C	С	C	С	С	С	С	С	С	С	С	೮	С	С
С	С	С	С	С	С	С	С	С	C	С	С	С	С
C	С	С	¢	С	С	С	С	С	С	С	С	С	С
C	С	С	C	С	С	С	С	С	ε	С	С	С	С
C	C	С	С	С	С	С	С	С	С	С	С	С	С
C	С	С	С	С	C	С	С	С	С	С	С	С	С
C	С	E030C	E030C	С	C	С	031*	030	E030C	E030C	E030C	E030C	E026C
936C	E031C	E030C	E030C	E044C	036	034	031	E028C	E027C	E024C	E030C	E030C	E023C
043C	041	045	059	055	054	C30	E029C	E028C	E027C	E030C	E028C	E026C	E025C
C318	E030S	036	E030S	037	035	033	E028S	E026S	E0298	E024S	E025S	E023S	E030S
0298	E028S	С	С	С	034	С	E025S	E0253	E020S	E024S	E025S	E023S	E022S
033	041	031	030	028	C	026	020	025	E025S	E030S	E029S	E030S	E024S
C	C	С	036	043	036	033	E030S	E026S	E023S	E030S	E027S	026	017
033	E0308	031	039	038	035	031	031	E026S	E028S	E032S	E030S	E027S	017
036	036	037	040	039	034	030	E020S	028	029	029	029	028	020
С	045	E031S	E030S	028	030	026	028	021	020	020	020	020	017
C	035	038	030	035	033	032	026	020	020	019	019	020	018
029	031	С	030	030	027	033	020	019	020	019	018	018	017
028	028	620	030	030	028	023	020	018	019	020	017	E018S	019
027S	030	035	035	034	023	026	019	022	025	019	019	019	617
034	029	E028S	E029S	029	026	021	020	E019S	020	019	E019S	020	020
033	029	030	030	030	028	024	023	019	020	01.8	019	E019S	018
035	034	035	030	C35	030	025	025	025	020	020	020	019	018
035	E030S	E030S	035	036	035	026	026	020	020	020	020	020	018
C	C	E030S	027	025	034	021	025	019	024	020	020	020	018
033	030	031	030	035	034	026	025	025	023	020	020	020	018
14	16	16	18	17	17	17	19	19	19	19	19	19	19
035	035	035	035	038	035	032	029	026	027	030	029	027	023
ປ29	030	030	030	030	028	025	020	919	020	019	019	019	019
6	5	5	5	8	7	7	9	7	7	11	10	8	6



Characteristic: foF2

IONOSPHERIC D/

Sweep: 1 Mc to 25 Mc ir

March 1965

Observed at:
Bangkok, Thailand
Lat. 13.73°N, Long. 100.57°E
105°E Mean Time (GMT + 7 hours)

Hour Date	00	01	02	03	04	05	06	07	08	09	10	11
1	С	С	С	С	С	С	С	С	С	С	С	С
2	c	č	c	C	C	C	C	C	C	C	c	c
3	č	c	Ċ	c	Ċ	C	Č	C	Ċ	Č	c	c
4	c	c	Č	č	Ċ	Ċ	C	C	Ċ	C	C	c
5	ů	č	č	Č	Ċ	c	Č	C	Ċ	c	c	č
6	c	č	c	c	C	c	c	Ċ	Ċ	С	c	c
7	c	c	c	c	Ċ	C	C	C	Ċ	C	Ċ	c
8	c	c	Ċ	Ċ	Ċ	C	Ċ	c	C	C	Ċ	c
9	c	c	Ċ	C	Ċ	7	Ü	c	Ċ	c	Ċ	C
10	Ċ	c	c	c	c	,	C	C	c	C	C	c
11	Ċ	č	c	c	c	ć	c	c	C	c	Ċ	C
12	C	c	c	Ċ	Ċ	c	С	C	C	C	С	С
13	С	С	3	C	C	C	С	С	C	C	С	С
14	D074C	D080C	071	042	F	024	В	045	065	068	070	072
15	081	s	060	042	029	Α	В	050	070	075	071	071
16	s	S	J053S	037	029	023	Α	048	072	076	077	067
17	R	074	F	F	023	A	В	049	063	066	067	068
18	072	F	F	F	F	Α	A	049	065	058	060	061
19	F	073	058	040	С	С	С	С	C	С	С	С
20	079	071	046	027	024	A	A	056	071	081	075	071
21	071	076	F	028	Α	A	A	056	071	087	092	U085R
<b>2</b> 2	F	F	F	F	032	023	В	059	075	078	068	062
23	F	R	068	F	034	027	026	055	073	083	С	070
24	C55	059	056	A	A	В	C24	056	070	075	071	070
25	067	061	043	028	024	017	025	061	076	085	089	089
26	071	075	058	031	A.	A	028	057	074	085	087	086
27	080	085	074	041	A	Α	026	058	074	085	092	097
28	075	081	056	036	023	В	025	060	078	085	J89	083
29	086	085	048	034	Α	018	021	056	076	030	091	085
30	F	096	F	030	026	020	023	055	075	089	090	J095S
31	S	088	058	037	F	018	022	055	073	083	С	С
Median	072	076	058	036	026	022	025	056	073	083	<b>071</b>	072
Count	11	13	13	13	9	8	9	17	17	17	15	16
UQ	080	085	064	040	030	025	026	058	075	085	090	085
LQ	070	072	051	029	024	018	023	050	620	075	070	069
QR	10	13	13	11	6	7	3	8	5	10	20	16

<sup>\*</sup> Tabulation of 077 = 7.7 Mc.

IONOSPHERIC DATA dc to 25 Mc in 0.5 minute

10	3.1	12	13	14	15	16	17	18	19	20	21	22	23
С	С	С	С	С	С	C	С	С	С	С	С	c	С
С	С	С	С	С	С	С	С	С	С	С	С	С	С
С	С	C	С	С	С	С	С	С	С	С	С	C	С
C	С	C	C	С	C	C	C	C	С	C	С	C	C
C	C	C	C	C	C	C	C	С	C	C	C	C	C
C	C		C	C	C	C	C	C	C	C	C	C	Ü
1	C	C	C	C	C	C	C	C	C	C	С	C	C
C	C	C	C	C	C	C	C	C	C	C	C	C	C
C	C C	C	C	C	С	C	C .1	C	C	C	C C	C	C
C	c	C	C	C C	C C	ပ C	C C	c	C C	C	C	C	C
c	c	c	C	c	C	C	C	c	c	C	c	C	C
c	c	077*	080	C	c	c	092	R	R	F	s	D070C	D076C
070	072	075	080	082	084	087	092	082	081	F	U053F	076	089
071	071	070	070	071	075	R	083	077	078	F	F	s	S
077	067	075	078	081	083	090	095	092	090	086	J076S	S	s
067	068	C	c	C	A	C	A	086	088	S	F	F	075
000	061	061	064	070	Ĉ	090	088	084	R	F	F	F	F
C	C	C	075	083	091	095	090	091	094	094	090	076	070
075	071	069	069	073	085	089	083	087	088	087	F	082	070
092	U085R	072	072	071	080	094	096	096	090	R	F	F	F
068	062	067	067	070	075	079	081	084	080	F	F	F	R
С	670	071	072	082	095	100	097	097	R	095	088	070	059
071	070	074	077	087	093	096	097	098	094	089	080	075	068
089	089	078	085	083	091	098	101	095	095	085	083	085	077
087	086	084	086	094	099	097	095	093	088	084	080	083	082
092	097	095	095	098	101	104	103	103	102	101	102	092	083
089	083	077	082	084	095	102	100	101	097	094	095	095	090
091	085	080	081	087	095	102	103	102	S	บ0953	091	692	092
090	J095S	082	085	094	101	102	103	102	101	S	S	100	100
С	С	070	077	080	090	095	099	099	091	092	S	S	S
071	072	074	078	082	091	096	096	094	090	092	085	082	077
15	16	17	18	17	16	16	18	18	15	11	10	12	13
		079	082	087	095							092	089
090 070	085 069	079 070	082	087	095 084	101 090	100 088	099 086	095	095 086	091 080	076	089
20	16	9	10	15	11	11	12	13	088 7	9	11	16	19
20	10	3	10	13	11	11	12	13		3	11	16	



Characteristic: M(3000)F2

IONOSPHERIC DAT Sweep: 1 Mc to 25 Mc in

March 1965

Observed at: Bangkek, Thailand Lat. 13.73°N, Long. 100.57°E 105°E Mean Time (GMT + 7 hours)

Hour Date	00	01	02	03	04	05	06	07	08	09	10	11
1	С	С	С	С	C	С	С	С	С	С	С	С
2	C	С	С	С	С	С	С	С	С	С	С	C
3	С	С	С	С	С	С	С	С	С	С	C	S
4	С	С	С	С	С	C	C	С	С	С	С	С
5	С	С	С	С	C	С	C	С	C	С	C	C
6	C	С	C	С	C	C	C	С	C	C	C	C
7	С	С	C	C	C	C	C	С	C	C	C	C
8	C	C	C	C	C	C	C	С	C	C	C	C
9	C	C	C	C	C	C	C	C	C	C	C	C
10 11	C	C	C	C	C	C	C	C	C	C	C	C
12	C	C	C	C	C	C	C	C	C	C	C	C
12	C	C	C C	C C	C		C G	C	C	C	C C	C
14	C C	C	355	379	C F	C 34:	B	320	C 270	C 265	265	C 255
15	340	C S	350 350	345	340		В	320 320	305	265 270	265 265	255 270
16	340 S	S	330 S	340	340 320	A 320	A	325	260	260	2 <del>0</del> 3	275
17	R	380	F	540 F	370	3.20 A	В	325	300	265	245	265
18	380	F	F	F	F	A	A	340	280	290	260	26C
19	F	370	350	330	Ċ	C	C	C	200 C	230 C	200 C	C
20	345	370	370	345	345	Ā	A	345	330	280	270	265
21	330	375	F	355	A	A	A	350	340	330	300	U245P.
22	F	F	F	F	335	350	B	340	360	255	240	270
23	F	R	360	F	360	355	310	360	335	290	C	250
24	31.0	330	380	A	A	В	300	320	270	270	270	270
25	330	370	360	335	345	350	310	345	325	300	265	235
26	320	350	380	350	A	A	310	320	205	270	265	260
27	315	350	370	360	A	A	270	345	335	315	295	255
28	320	350	350	350	340	В	320	345	330	300	255	250
29	330	360	335	340	A	<b>3</b> 50	310	340	330	315	265	240
30	F	360	F	315	295	330	330	335	335	315	280	s
31	S	<b>3</b> 50	365	350	F	330	330	335	310	270	С	С
Median	330	360	360	3 45	340	345	310	340	325	280	265	260
Count	10	12	12	13	9	8	9	1.7	17	17	15	15
ĽQ	3-10	370	370	352	352	<b>35</b> 0	325	345	335	307	270	270
IQ	320	350	350	338	328	330	305	323	290	268	260	250
QR	20	20	20	14	24	20	20	22	45	39	10	20

<sup>\*</sup> Tabulation of 275 = factor of 2.75

IONOSPHERIC DATA Me to 25 Me in 0.5 minute

10	11	12	13	14	15	16	17	18	19	20	21	22	23
С	C	C	C	C	C	С	C	C	С	C	C	C	C
C	C	C C	C	C	C	C	C	C	C	C	C	C	C
C	C C	C	C	c	C	C	C	C	C	C	C	C C	C
C	C	C	C	C	C	C	C	C	C	C	C	C	C
C	c	C	C	c	C	C	C	C	C	c	c	C	C
c	C	C	Ċ	C	Č	C	C	C	C	c	c	C	C
Č	Ċ	C	C	C	Č	Ċ	C	C	C	ď	c	C	c
C	c	C	C	C	c	Ċ	C	Ċ	C	c	С	C	c
С	С	С	С	С	С	C	С	С	С	C	С	C	С
С	С	С	С	С	С	С	С	С	С	С	С	С	С
С	С	С	С	С	С	c	С	С	С	C	С	С	С
С	С	275*	265	С	С	С	310	R.	F	F	S	С	С
265	255	260	255	250	270	300	280	280	250	F	U315F	295	335
265	270	275	275	280	275	R	280	260	255	F	F	S	s
270	275	285	280	280	290	<b>3</b> 05	300	295	285	280	S	s	s
245	265	С	С	С	A	С	A	310	310	S	F	F	330
260	260	270	260	240	C	315	315	290	R	F	F	F	F
С	С	С	270	280	310	320	325	320	280	<b>3</b> 20	315	335	320
270	265	270	255	265	295	315	305	315	300	295	F	315	310
300	U245R	260	250	260	280	315	320	310	310	R	F	F	F
240	270	260	265	260	280	295	240	290	280	F	F	F	R
С	250	260	255	285	300	320	<b>3</b> 20	315	R	320	345	335	310
270	270	270	260	265	285	280	280	270	270	270	285	300	310
265	235	255	245	265	275	285	300	310	300	290	300	320	310
265	260	260	260	265	280	275	265	265	260	265	300	285	295
295	255	260	260	270	280	290	300	310	300	310	320	325	315
255	250	260	265	265	280	300	310	<b>3</b> 00	290	290	300	320	320
265	240	260	260	275	280	290	300	300	S	U280S	315	320	300
280	S	260	270	285	300	300	300	300	300	S	S	315	330
С	С	260	265	260	280	300	300	290	280	290	S	S	S
265	260	260	260	265	280	300	<b>3</b> 00	300	285	290	315	320	313
15	15	17	18	17	16	16	18	18	15	11	9	11	12
270	270	270	265	280	292	315	<b>3</b> 10	310	300	310	317	325	325
260	250	260	255	260	280	290	280	290	270	280	30C	300	310
10	20	10	10	20	12	25	<b>3</b> 0	20	30	30	17	25	15



Characteristic: h'F2

IONOSPHERIC DAT

Sweep: 1 Mc to 25 Mc in

March 1965

Observed at:
Bangkok, Thailand
Lat. 13.73°N, Long. 100.57°E
105°E Mean Time (GMT + 7 hours)

Hour Date	00	01	02	03	04	05	06	07	08	09	10	11	
1	_	_	_	_	-	_	_	С	С	С	С	С	
2		_	_	_	-	_	_	С	С	С	С	С	
3	-	_	_	-	_	_	-	С	C	С	С	С	
4	-	_	_	-	-	_	-	С	С	С	С	С	
5	-	_	-	_	-	_	-	С	С	c	С	C	
6	-	-	-	-	-	-	-	С	C	C	С	C	ĺ
7	-	-	-	-	-	-	-	С	С	C	С	C	ĺ
8	-	-	-	-	-	-	-	С	С	C	С	C	
9	-	-	-	-	-	-	-	С	С	C	С	С	
10	-	-	-	-	-	-	-	-	-	-	-	-	ĺ
11	-	-	-	-	-	-	-	С	С	С	С	C	Н
12	-	-	-	-	-	-	-	С	С	C '	C	С	ĺ
13	-	-	-	-	-	-	-	С	С	C	С	C	
14	-	-	-	-	-	-	-	-	L	L	340	<b>3</b> 60	
15	-	-		-	-	-	-	-	L	L	<b>J35</b>	360	
16	-	-	-	-	-	-	-	-	L	320	330	-	
17	-	-	-	-	-	-	-	L	330	320	E380A	350	
18	-	-	-	-	-	-	-	-	L	L	410	400	
19	-	-	-	-	-	-	-	С	С	C	С	С	
20	-	-	-	-	-	-	-	-	300	330	360	L	
21	-	-	-	-	-	-	-	-	280	300	320	355	
22	-	-	-	-	-	-	-	-	L	L	L	<b>3</b> 60	
23	-	-	-	-	-	-	-	L	L	L	-	370	
24	-	-	-	-	-	-	-	-	L	L	320	350	
25	-	-	-	-	-	-	-	L	L	L	327	350	
26	-	-	-	-	-	-	-	L	L	L	<b>33</b> 0	330	
27	-	-	-	-	-	-	-	L	280	E300A	L	350	
28	-	-	-	-	-	-	-	245	L	L	344	350	
29	-	-	-	-	-	-	-	-	285	310	L	360	
30	-	-	-	-	-	-	-	250	280	300	323	250	
31			-				-		310	330	C	С	Ц
Median	_	_	-	_	-	_	_	_	285	315	336	353	
Count	-	-	-	-	-	-	-	2	7	8	12	14	
UQ	-		-	-	-	-	-	-	310	325	352	360	П
IQ	-	-	-	-	-	-	-	-	280	300	328	350	
QR	-	-	-	-	-	-	-	-	30	25	24	10	
<b></b>			L	I	i	1		ı					1

Tabulation of 330 = 330 km.

IONOSPHERIC DATA
Mc to 25 Mc in 0.5 minute
March 1965

10	11	12	13	14	15	16	17	18	19	20	21	22	23
000	000	םחם	000	000	000	000	000		1 1 1	- -	- -	-	-
С	С	С	С	С	С	С	С	-	-	-	-	-	-
C	C	C	C	C	C	C	C	-	-	-	- '	-	-
C	C	C	C	C	C	C	C	-	-	-	-	-	-
C	C	C	C	C	C	C	C	-	-	-	-	-	<u>-</u>
C	C	C	C	C C	C	C	C	_	-	_	l <u>-</u>		[
С	С	-	C	-	-				_	_	l <u> </u>	_	
c	c	С	c	C	C	c	C	_	_	_	_	_	_
č	C	č	Ċ	c	c	C	C	_	_	_	l -	_	-
Č	c	330*	340	Č	Č	c	L	_	_	_	_	_	-
340	360	370	360	340	330	L	L	_	-	-	-	_	-
335	360	340	E400B	360	E350B	L	L	-	,	-		-	-
330	-	320	310	320	305	310	L	_	-	-	-	-	-
E380A	350	C	С	С	A	С	A	-	-	-	-	-	l - I
410	400	400	400	340	С	280	L	L	-	-	-	-	-
С	С	C	340	320	310	290	L	-	-	-	-	-	-
360	L	350	360	360	320	288	L	-	-	-	-	-	-
320	355	350	L	368	340	300	L	-	i -	-	-	-	l - I
L	360	380	360	360	330	290	L	-	-	-	-	-	-
-	370	360	L	330	290	270	L	-	-	-	-	-	-
320	350	348	L	330	305	295	L	-	-	-	-	-	-
327	350	350	E350A	E340A	E350A	300	E292A	-	-	-	-	-	-
330	330	340	I,	340	307	L	L	-	-	-	-	-	-
L	350	330	310	340	320	320	300	-	-	-	_	_	
344	350	350 350	330 E370A	L 350	320 <b>E3</b> 60A	300 E320A	L L	_	-	_	1 -		1 [ 1
L 338	360 250	335 335	350 350	330 330	310	L ESZUA	L	<u>-</u>	_	[	I [	l <u> </u>	
336 C	230 C	350 350	360	332	310	L	L		_	_	_	_	-
													<del> </del>
336	353	350	355	340	320	298	-	-	-	-	-	-	-
12	14	17	14	16	16	12	2	-	-	-	-	-	-
352	360	355	360	355	335	305	-	-	-	-	-		
328	350	338	340	330	309	289	-	-	-	-	-	-	-
24	10	17	20	25	26	16	-	-	-	-	-	-	-
	L		' سسا				L	<u> </u>	<u> </u>	L	<u> </u>	I	L



Characteristic: h'F

IONOSPHERIC DATA

Sweep: 1 Mc to 25 Mc in (

March 1965

Observed at:
Bangkok, Thailand
Lat. 13.73°N, Long. 100.57°E
105°E Mean Time (GMT + 7 hours)

Hour	00	01	02	งัง	04	05	06	07	08	09	10	11	
Date													
1	С	С	С	С	С	С	С	С	С	С	С	С	
2	С	С	С	С	С	С	С	С	c	С	С	С	
3	c	C	С	С	С	С	С	C	С	c	С	С	
4	C	Ċ	С	С	С	С	С	С	С	c	С	С	
5	c	С	С	С	С	С	С	С	С	С	С	С	
6	С	С	С	С	С	С	С	C	C	С	С	С	
7	С	С	С	С	С	С	С	С	С	С	С	С	ĺ
8	С	С	С	С	С	С	C	С	С	С	C	С	
9	С	С	С	С	С	С	С	С	С	C	С	С	
10	С	С	С	С	С	С	С	С	С	С	C	С	
11	С	С	С	С	С	C	С	С	С	С	С	C	
12	С	С	С	С	С	С	С	C	С	c	С	С	
13	С	С	С	С	С	С	С	С	C	С	С	C	
14	240	240	220	210	230	U300S	В	3260°C	240	215	220	205	
15	210	230	220	220	230	A	В	250	E240B	220	E210C	E220B	
16	210	220	210	230	250	E300A	A	E250S	220	210	210	-	
1-	220	210	210	220	240	A	В	240	E230A	210	A	210	
18	220	212	210	220	E250A	A	A	250	218	210	200	240	
19	U235F	210	200	220	С	С	С	С	С	C	С	С	
20	238	220	200	220	260	A	A	250	E260A	220	210	E200A	
21	250	210	200	210	A	A	A	230	230	E255A	E250A	205	
22	U280F	250	220	E240A	240	E280A	В	E240A	E230A	220	200	E210B	
23	240	220	200	E220A	230	230	E290A	235	<b>∑240A</b>	, 210	С	200	IJ
21	255	250	210	A	A	В	E330B	240	220	210	200	180	
25	245	210	200	226	E247A	E280A	E300B	230	230	234	E280A	A	П
26	250	232	209	E240A	A	A	E340A	E260A	E244A	220	E200A	210	
27	260	230	220	210	A	A	E300A	240	E260A	A	340	A	
2ช	270	240	210	220	240	В	E300B	A	230	220	220	205	
29	240	220	210	230	A	E270A	E350S	250	235	A	210	E260A	
30	260	230	210	220	247	E300A	E300A	A	320	E290A	E249A		
31	U250S	220	200	210	240	E320A	E325A	240	230	2001	C	С	
Median	242	220	210	220	240	290	300	240	230	220	210	205	
Count	18	18	18	17	12	8	9	15	1.7	15	14	13	
UQ	255	232	210	228	248	300	335	250	242	220	240	215	П
IQ.	235	212	Soc	215	235	275	300	240	230	210	200	200	
QR	20	20	10	13	15	25	35	10	12	10	40	<b>1</b> 5	

 $<sup>^*</sup>$ Tabulation of 200 = 200 km.

ONOSPHERIC DATA c to 25 Mc in 0.5 minute

10	11	12	13	14	15	16	17	18	19	<b>2</b> 0	21	22	23
C	C	C	C	C C	C	C	C	C	C	C C	C	CC	C C
C	C	C	C C	C	C C	C	C	C	C	C	C	C	c
C	C	C	Ü	C	C	C	C	c	C	G	C	c	C
C	c	C	c	C	C	C	C	c	C	Č	C	Ċ	C
C	č	C	c	C	c	C	c	c	Č	Ċ	Č	Č	C
c	c	c	Ċ	C	c	Ċ	C	C	C	C	С	C	c
C	c	c	c	С	C	Ċ	C	c	С	С	С	C	C
c	c	C	c	С	c	C	c	С	С	С	С	С	С
С	c	c	С	С	С	С	С	С	С	С	С	C	С
С	c	С	С	С	С	С	С	С	С	С	C	С	c
С	c	С	С	С	С	С	С	С	C	C	С	С	С
C	c	200*	E220A	С	С	С	235	E260B	E220A	U340F	270	U230C	250
220	205	200	200	200	E205B	240	E230B	E260C	300	E300A	U300F	E250C	E230C
E210C	E220B	В	В	В	В	E245A	E230A	258	300	U300F	U240F	230	225
210	-	E200B	200	180H	E200B	230	E250A	E260A	290	290	250	U230S	U220S
A	210	Ç	С	С	A	С	A	E350A	310	U300S	U240F	250	240
200	240	185	190	180	С	180	E235A	260	E300S	U320F	U250F	U230F	240
C	С	C	200	E190B	E180B	E230B	B240S	260	E270S	E270S	E240S	240	245
210	E200A	E210A	E200B	E220A	E200A	E220B	E230B	E250S	300	E305S	U240F	230	E290A
E250A	205	200	E200B	E200B	200A	E225A	E245A	250	270	300	<b>U</b> 270F	U230F	240
200	E210B	200	200	180	170	180	E220B	245	290	320	260	220	240
С	200	200	180	180	190	220	210	245	260	230	220	240	250
200	180	E200A	E265A	E200A	E200A	190	230	250	265	240	228	230	240
E280A	A	A	A	A	A	A	A,	255	260	270	240	248	240
E200A	210	210	210	210	200		E235A	270	290	270	245	230	240
340	A	180H	E230A	E280A	E300A	¥š.	E280A	E280A	265	245	230	232	250
220	205	210	200	200	190	E240A	232	270	280	290	260	250	250
.210	E260A	A	A	A	A	A	240	250	280	270	260	235	260
E240A	170H	E230A	200	200	E200B	E230A	E250A	260	275	270	240	250	245
С	C	190	190	200	200	E200A	E220A	E270 A	E300B	U280S	U240S	240	U220S
210	205	200	200	200	200	228	235	260	280	290	240	232	240
14	13	14	15	14	13	14	17	19	19	19	19	19	19
240	215	210	210	200	200	230	248	270	300	300	260	248	250
200	200	200	200	180	190	200	230	250	265	270	240	230	240
40	15	10	10	20	10	30	18	20	35	<b>3</b> 0	20	18	10



Characteristic: foF1

IONOSPHERIC DATA

Sweep: 1 Mc to 25 Mc in (

March 1965

Observed at:

Bangkok, Thailand Lat. 13.73°N, Long. 100.57°E 105°E Mean Time (GMT + 7 hours)

													_
Hour Date	00	01	02	03	04	05	06	07	08	09	10	11	
1	-	-	-	-	-	_	-	С	С	С	С	С	
2	_	_	-	-	-	_	-	С	С	С	С	С	
3	-	-	-	-		-	••	С	С	С	С	С	
4	-	-	-	-	-	-	-	С	С	С	С	С	
จั	-	-	_	-	-	-	-	C	С	С	С	C	
6	-	-	-	-	-	-	-	С	С	С	C	C	
7	-	-	-	-	-	-	-	С	C	C	С	C	
8	-	••	-	-	-	-	-	С	С	С	C	C	
9	-	-	-		-	-	-	С	С	C	С	C	
10	-	-	-	-	-	-	-	С	С	С	¢	C	
11	-	-	-	-	-	-	-	С	C	С	C	С	. ilikii.
12	-	-	-	-	-	-	-	С	С	С	С	C	111100
13	-	-	-	-	-	-	-	G	С	С	С	С	
14	-	-	-	-	-	-	-	-	L	L	044	045	
15	-	-	-	-	-	-	-	-	L	L	R.	R	
16	-	-	-	-	-		-	-	L	U041L	U044L	U044L	
17	-	-	-	-	-	-	-	L	L	U041L	A	044	-Asterial
18	-	-	-	-	-	-	-	-	L	041	043	043	100
19	-	-	-	-	-	-	-	С	С	С	C	C	
20	-	-	-	-	-	-	-	-	L	042	043	U045L	
21	-	-	-	-	-	-	-	-	L	L	040	045	
22	-	-	-	-	-	-	-	-	L	L	044	044	
23	-	-	-	-	-	-	-	L	L	L	С	044	
24	-	-	-	-	-	-	-	-	L	L	U044L	045	
25	-	-	-	-	-	-	-	L	L	L	U044L	A	
26	-	-	-	-	-	-	-	L	L	042	L	U045L	
27	-	-	-	-	-	-	-	L	L	A	L	A	
28	-	-	-	-	-	-	-	A	L	L	U044L	045	
29	-	-	-		-	-	-	-	L	A	U045L	045	
30	-	-	-	-	-	-	-	A	L	L	044	045	
31				-			<u> </u>		L	U042L	C_	С	
Median	_	_	_	_	_	_	_	_		042	044	045	
Count	_	_	_	-	_		_	l -	_	6	11	13	
UQ	-	-	-	-	-	-	-	-	-	042	044	045	
IQ	-	-	-	-	-	-	-	-		041	043	044	
QR	-	-	-	-	-	-	-	-	~	1	1	1	
													_

<sup>\*</sup> Tabulation of 044 = 4.4 Mc.

IONOSPHERIC DATA

Mc to 25 Mc in 0.5 minute

10	11	12	13	14	15	16	17	18	19	20	21	22	23
С	С	C	C	С	С	С	С	-	-	-	-	-	-
C	С	С	C	C	С	C	C	-	-	-	-	-	-
C	C	C	C	C	C	C	C	-	-	-	-	-	-
C	C	C	C	C	C	C	C	-	-	-	-	-	-
C	C	C	C	C	C	C	C	-	-		-	-	-
C	C	C	C	C	C	C	C	-	-	-	-	-	-
C C	C C	C	C	C	C	C	C	-	-	-	-	-	-
c	C	C	C	Ö	C	C	C	_	_	_	-	-	
c	C	C	C	C	C	C	C	-		_	_		<u>-</u>
C	C	0	c	C	C	C	C	_	_	_	_	_	
C	C	C	C	C	C	C	C	_	_			l	
C	C	044*	044	C	C	C	L		_	_	_	1 <u>-</u>	
044	045	046	045	U043L	U042L	L	L	_	-	_	l <u>-</u>		_
R	R	B	B	B	B	L	L			_	<u> </u>		_
U044L	U044L	045	044	043	042	L	L		l	_	_		_
A	044	C	C	C	A	C	A	_	l <u> </u>	_		_	_
043	043	044	044	043	C	L	L	L	<u>-</u>	_	_	_	<u> </u>
C	C	C	044	043	U044L	L	L	_	_	_	i _ '	_	
043	U045L	045	044	044	U042L	L	L	_		_	_	_	_
040	045	045	045	044	U043L	L	L	_	_	_	_ '	_	_
044	044	045	044	043	U042L	L	L	_	_	_	! _	_	l _ l
C	044	045	L	U044L	U042L	L	L	_	_	_	<b>!</b>	_	_
U044L	045	045	944	044	U043L	L	L	_	_	_	l <u>-</u>	_	-
U044L	A	A	A	A	A	A	A	_	_	_	_	_	-
L	U045L	045	044	U045L	U044L	L	L	_	_	_	_	_	-
L	A	045	044	U045L	U043L	A	L	_	-	-	-	-	-
U044L	045	045	045	U045L	U045L	L	L	_	_	-	<b>!</b> -	-	-
U045L	045	A	A	A	A	A	L	-	-	<b>-</b>	-		-
044	045	045	044	U044L	L	L	L	-	-	-	-	-	-
С	С	045	046	U044L	U045L	L	L	_	i -	-	-	-	-
044	045	045	044	044	Ç43		_			-	_		
11	045 13	14	14	14	1.2	-	_	_		_			_
11	10	14	1.4	1.4	3.2								
044	045	045	045	044	044	-	-	-	-	-	-	-	- 1
043	044	045	044	043	042	-	-	-	-	-	-	-	-
1	1	0	1	1	2	-	-	-	-	-	-	-	-



Characteristic: M(3000)F1

IONOSPHERIC DA Sweep: 1 Mc to 25 Mc in

March 1965

Observed at: Bangkok, Thailand Lat. 13.73°N, Long. 100.57°E 105°E Mean Fime (GMT + 7 hours)

Hour Date	00	01	02	03	04	05	06	υ7	08	09	10	11
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1 2	-	-	-	-	-	-	_	C	C	C	C	C
3	-	-	-	-	-			C	C	C	C	C
4	-	-		_		_		C	C	C	C	c
5	_	_	_	_		_	_	C	C	C	C	c
6		_		_	_	_	_	c	C	c	C	c
7	-	_	_	_		_	_	C	C	c	c	c
8	_	_		_	_	-	_	c	,	C	c	c
S	_	_	_	_	_	_	_	C	Ċ	c	c	c
10	_	_	_	-	_		_	c	C	C	c	c
11		_	_	_	_	_		C	C	C	c	c
12		_	_	_		_	_	c	C	C	c	c
13	_	_	_	_	_	_	_	C	C	c	0	c
14	_	_	_	_	_	_	_	_	L	L	390	380
15	_	_	_	_		_	_		L	L	R	B
16	_	_	_	_	_	_	_	_	L	V385L	1380r	U405L
17	_	_		_			_	L	L	U3801	A	410
18	_	_	_		i _	_	! -		L	390	400	415
19	_	_	_	l _	_	_	_	С	Č	C	C	c
20	_	_	_	_	_	_	_		L	390	400	U405L
21	_	_	_	_	_	_	_	_	L	L	390	395
22	_	_	_	_	_	_	l -	_	L	L	400	410
23	_	_	_	_	_	_	-	L	Ĺ	L	С	420
24	_	-	_	-	_	_	_		L	L	V395L	400
25	_		_	_	_	_	_	L	L	L	U365L	A
26	-	-	_	-	-	l -	-	L	L	390	L	U385L
27	-	-	_	-	_	_	-	L	L	A	Ĺ	A
28	-	_	_	-	-	-	-	Ā	L	L	V390L	390
29	-	-	-	-	_	-	-	-	L	Ā	U38. L	375
30	_	-	ca.	-	-	-	-	A	L	L	370	395
31	-		-	_	_	-	-	-	L	U370L	С	С
Median	_	_	_	_	_	_				388	390	400
Count	_	_	_	_	_	-	_	_	-	388 6	390 11	13
Count									-			
UQ	-	-	-	-	-	-	-	-	-	390	400	410
ĽQ	-	-	-	-	-	-	-	-	-	380	380	388
QR	-	-	-	-	~	-	-	-	-	10	20	22

<sup>\*</sup> Tabulation of 400 = factor of 4.0.

VOSPHERIC DATA to 25 %c ir 0 5 minute

10	ίl	12	13	14	15	16	17	18	19	20	21	22	23
С	С	С	С	С	С	С	С	-	-	-	-	-	-
C	С	С	С	C	С	С	Ç	-	-	-	-	-	-
C	C	C	C	С	C	C	C	-	-	-	-	-	-
C	c l	C	C	C	C	C	C	_	_	-	-	-	_
C	c c	C	C	C	C	C	C	_	_	_	<u>-</u>	-	_
c	c	C	C	Ċ	C	Č	C		_	_	_	_	
c	c	C	C	0 0	C	C	c	_	_	_	_		_
c l	č	Č	C	Č	c	C	Č	_	_	-	_	_	_
c	c l	c	Č	Ċ	c	C	Ċ	-	-	-	-	_	-
c	C	C	c	C	C	C	C	-	-	-	-	_	_
c	С	С	С	С	С	С	С	-	-	-	-	-	-
3	c	400*	400	С	С	С	L	-	-	-	-	-	-
90د	380	385	405	U410L	12390L	L	L	-	-	-	-	-	-
R	R	В	В	В	В	L	L	-	-	-	-	-	-
390L	U405L	400	420	419	390	L	L	-	-	-	-	-	-
A	410	С	С	С	A	С	Α	-	-	-	-	-	-
400	415	430	425	340	С	L	L	L	-	-	-	-	-
C	С	С	415	420	W380L	L	L	-		-	-	-	-
400	U405L	405	40	410	1390L	L	L	-	-	-	-	-	-
390	395	400	410	390	U385L	L	L	_	-	-	-	-	-
400	416	415	430	430	U400L	L	L	-	-	-	-	-	-
C	42J	420	L	U400L	U385L	L	I.	-	-	-	_	-	-
395L	400	400	380	385	U390L	L	L	_	<u> </u>	_	-	_	<u> </u>
365L	A U385L	A 400	A 415	A	A U370L	A	A	_	_	_	i	_	l <u>-</u>
L	MAD T	400 400	415 395	U390L U360L	U370L	L	l T	-	_	l <u>-</u>	1 -	_	
L 390L	390	400	393 400	U395L	U370L	A L	L L	-	l	l	l		l -
380F	390 375	400 A	400 A	V392F	A	A	L	<u>-</u>	_	_	i -	l	_
3/0	375	390	400	U395L	L	L	L	<u>-</u>	_	_	_	<u>-</u>	_
c	C	420	415	U410L	1380F	L	L	_	_	_	-	-	_
39C	400	4(10	410	397	385	-	_	_	_	-	_	-	_
11	13	14	14	14	12	-	-	-	-	-	-	-	-
400	410	415	415	410	390	-	-	-	-	-	-	-	-
380	388	400	400	390	375	-	-	-	-	-	-	-	-
20	22	15	15	20	15								



Characteristic: foF

IONOSPHERIC DAT

Sweep: 1 Mc to 25 M: in

March 1965

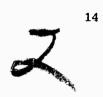
Observed at:
Bangkok, Thailand
Lat. 13.73°N, Long. 100.57°E
105°E Mean Time (GMT + 7 hours)

							,					
Hour Date	00	01	02	63	04	05	06	07	08	09	10	11
1	-	-	.an	-	_	_	-	С	C	С	С	С
2	_	_	_		_	_	_	C	C	C	C	C
3	_		-	-	-	-	_	С	С	C	C	С
4	-		_	-	-	-	-	С	С	C	С	С
5	_		_	_	-	-	-	С	C	C	С	c
6	-	_	-	-	-	-	-	С	С	С	С	J
7	-	-	-	-	-	-	-	C	С	С	С	C
8	-	-	-	-	-	-	-	С	C	С	С	C
9	-		-	-	-	-		С	С	С	С	C
1.0	-	-	-	-	-	-	-	С	С	С	С	С
11	-	-	-	-	-	-	-	С	С	С	С	С
12	-	-	-	-	-	-	-	С	С	С	С	С
13	-	í -	-	-	-	-	-	С	С	С	C	С
14	-	-	-	-	-	•	-	-	С	С	C	D32CR
15	-	-	-	-	-	-	-	-	В	В	С	В
16	-	-	-	-	-	-	-	<del>-</del>	В	В	В	A
17	-	-	-	-	-	-	-	A	A	A	A	A
18	-	-	-	-	-	-	-	-	-	A	В	В
19	-	-	-	-	-	-	-	С	C	C	C	C
20	-	<b>i -</b> i	-	-	-	-	-	-	В	В	В	A
21	-	_	-	-	-	-	-	-	В	В	В	В
22	-	-	-	-	-	-	-	-	A	В	A	В
23 24	-	-	-	-	-	-	-	В	В	B	C	B
25	-	- 1	-	-	-	-	-	_	В	U310R		R R
26	_	-			-	_	-	B B	A B	R B	R A	D330R
27	_		_	l	-	_		1	R	B	A B	A
28	_	[ ]		_	_		-	A A	R B	A	В	340
29	_					l	_		В	B	В	B B
30	-	]		[		l		R	B	A	B	A
31	-		_		_			_	A	A	C	Ĉ
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Median	-	-	-	-	-	-	-	-	-	-	-	-
Count	-	-	-	-	-	-		-		1	•	3
UQ		_	-		-	_	_	_	-	_	-	-
IQ	-	-	-	_	-	_	-	_	_	-	-	-
AÇ!	-	-	_	-	-	-	-	-	-	-	-	-
h-					<u></u>		L	<u> </u>	L			

<sup>\*</sup> Tabulation of 330 = 3.3 Mc.

IONOSPHERIC DATA Mc to 25 Mc in 0.5 minute

10	11	12	13	14.	15	16	17	18	19	20	21	22	23
С	С	С	С	С	С	С	С		-	-	-	-	-
C	С	С	C	C	С	С	С	-	-	-	-	-	-
C	С	С	Ç	C	С	С	С	-		-	-	-	-
С	С	С	S	С	С	С	С	-	-	J	-	-	-
C	С	C	С	С	С	С	C	-	-	-	-	-	- 1
С	С	С	С	C	С	С	С	-	-	-	-	-	-
С	С	С	С	С	C	С	С	-	-	-	-	-	- 1
C	С	С	С	С	С	С	С	-	-	-	-	-	-
C	С	С	C	C	С	С	С	-	-	- ,	-	-	-
C	C	C	С	С	С	С	С	-	-	-	-	-	-
C	С	С	С	С	С	С	С	-	-	-	-	-	ļ <b>-</b>
C	С	С	С	С	С	С	С	-	-	-	-	-	-
C	С	С	С	С	С	С	С	-	-	-	-	-	-
C	D320R	D330R	330*	U330R	В	В	В	-	-	-	-	-	-
C	В	В	В	В	В	В	С	-	-	-	- 1	-	-
В	A	В	S	В	В	В	В	-	-	-		-	-
A	A	С	С	С	В	С	В	-	-	-	-	-	-
В	В	A	A	A	С	A	A	A	<b>!</b> -	-	-	-	-
С	C	С	В	В	В	В	В	-	-	-	-	-	-
В	A	В	В	В	В	В	В	_	-	-	-	-	-
В	В	В	В	В	В	В	В	- 1	<b>i</b> -	-	-	-	-
A	В	A	A	A	A	R	В		-	-	-	-	[ - ]
C	В	В	R	В	В	В	В	-	-	-	-	-	-
R	R	R	R	R	R	R	В	-	-	-	-	-	-
R	R	R	R	330	R	R	A	-	-	-	-	-	-
A	D330R	В	В	В	A	R	A	-	-	-	-	-	-
В	A	A	R	R	R	R	В	-	-	-	-	-	-
В	340	D360R	D340R	R	D320R	R	В	-	<b>!</b> -	-	-	-	-
В	В	В	R	R	-	R	B		-	-	-	-	-
В	A	A	В	В	В	290	В	-	-	-	-	-	-
С	С	A	A	A	В	A	В		-		·	<u> </u>	
_	_	_	_	-	_	_	_	_	-	_	-	-	-
-	3	2	2	2	1	1	-	-	-	-	-	-	-
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				L				<u></u>		<u> </u>	<del></del>		



Characteristic: h'E

JONOSPHERIC DATA

Sweep: 1 Mc to 25 Mc in (

March 1965

Observed at:
Bangkok, Thailand
Lat. 13.73° N, Long. 100.57° E
105° L Mean Time (GMT + 7 hours)

Hour Date	00	01	02	03	04	05	06	07	08	09	10	11	
1	_	_	-	_	-	_	_	С	С	С	С	С	Γ
2	_	_	_	_	_	_	_	C	C	c	c	C	
3	_	-	_	_	_	-		С	С	С	С	С	
4	_	_	_	_	-	-	_	С	С	С	С	С	1
5	_	_	-	-	-	-	-	С	C	С	С	С	i '
6	_	_	-	-	_	-	-	С	С	С	С	С	
7	-	-	-	-	-	-	-	С	С	С	С	С	
8	-	-	-	-	-	-	-	С	С	С	С	C	ĺ
9	-	-	-	-	-	-	-	С	С	C	С	С	1
10	-	-	-	-	-	-	-	С	С	C	С	C	
11	-	-	-	-	-	-	-	С	С	С	С	С	
12	-	-	-	-	-	-	-	С	С	C	С	С	
13	-	-	-	-	-	-	-	С	С	C	С	С	
14	-	-	-	-	-	-	-	-	С	C	С	D120C	
15	-	-	-	-	-	-	-	-	В	В	С	В	
16	-	-	-	-	-	-	-	-	В	В	В	A	•
17	-	-	-	-	-	-	-	A	A	A	A	A	•
18	-	-	-	-	-	-	-	-	A	A	В	В	
19	-	-	-	-	-	-	-	C	C	C	C	C	
20	-	-	-	-	-	-	-	-	В	В	В	A	
21	-	-	-	-	-	-	••	-	В	В	В	В	
22 23	-	-	i -	-	-	-	-	_	A	ь	A C	B B	į '
23	- -	-	-	_	-	-	-	В	В	B 11100	110		
25	_	-	_	_	-	_	- -	- В	B A	U110S U110S	110	100 120	
26	_			_		_	_	В	B	B	A	120	
27	_	_	-	_	_	_	_	A	1 <b>6</b> 0	В	В	120 A	
28	_	_		_	_	_	_	A	B	A	В	120	
29	-	_	_	_	_	_	_	_	В	E	В	B	
30	-	_	_	_	_	_	_	150	В	Ã	В	A	
51	-	_	_	_	_	-	_	-	Ā	A	c	c	
													Γ
Median Count	- -	_	_	_	<b>-</b> -	_	_	1	1	2	2	120 5	
								1					
ŲQ	-	-	-	-	-	-	-	-	-	-	-	120	
ĽQ	-	-	-	-	-	-	-	-	-	-	-	110	
QR	-	-	-	-	-	-	-	-	-	-	-	10	

<sup>\*</sup>Tabulation of 120 = 120 km.

ONOSPHERIC DATA c to 25 Mc in 0.5 minute

10	11	12	13	14	15	16	17	18	19	20	21	22	23	
C C	C C	CC	CC	CC	CC	C	CC	-	-	-	-	•	•	
C	c	C	C	C	C	C	C	-	<u>-</u>	-	-	-	-	ĺ
C	C	C		C	C	C	00	_	_	_	_	_	_	ĺ
C	C	C	000	c	C	c	Ċ	_		_	_	_	_	
c	c	Ċ	c	Č	Ċ	Ċ	C	_	_	_		_	_	
С	C	C	C	c	C	Ċ	C	-	_	_	-	_	_	l
С	С	С	С	С	С	С	С	_	-	-	-	-	-	
С	С	C	С	С	С	С	С	-	-	_	-	-	-	
С	С	С	С	С	С	С	С	-	-	-	-	-	-	
С	С	С	C C	С	С	С	С	-	-	-	-	-	_	
С	С	С	С	С	С	С	С	-	-	-	-	-	-	ĺ
С	С	A	A	С	С	С	В	-	-	-	-	-	-	
С	D120C	120*	E120C	110	В	В	В	-	-	-	-	-	-	
С	В	В	₿	В	В	В	С	-	-	~	-	-	-	
В	A	В	S	В	В	В	В	-	-	-	-	-	-	l
A	A	С	С	С	В	С	В	-	-	-	-	-	-	
В	В	A	A	A	С	A	A	A	-	-	· <b>-</b>	-	-	
С	С	С	В	В	В	В	В	-	-	-	-	-	-	
В	A	В	В	В	В	В	В	-	-	-	-	-	-	
В	В	В	В	В	В	B	В	-	-	-	-	-	-	
A	В	A	A	A	A	120	В	-	-	-	-	-	-	
C	В	В	110	В	В	B	В	-	-	-	-	-	-	
110	100 120	110 120	115 120	1.10 120	110 120	110 120	В	-	-	-	-	-	-	
110	120	120 B	120 B	B	1.20 A	120	A	_	_	_	_	-	-	١
A B	120 A	A	U110S	120	120	120	A B	_		_	_	_	l <u>-</u>	l
В	120	120	120	120	120	120	В	_	_	_	_	_		
В	120 B	120 B	123	120	120	118	В	_	_	_	_	_	_	
В	A	A	123 B	120 B	B	128	В	_	_	_	_	_	_	
c	Ċ	A	A	A	B	A	В	_	_	_	_	_	_	
	120	120	120	120	120	120	-	_	_	_	_	_		
2	5	4	7	6	5	8	-	-	-	-	-	-	_	
-	120	120	120	120	120	120	-	-	-	-	-	_	-	
-	110	115	110	110	115	119	-	-	-	-	-	-	-	
-	10	5	10	10	5	1	-	-	•	-	-	-	-	

Characteristic; fbEs

IONOSPHERIC DAT

Sweep: 1 Mc to 25 Mc in

March 1965

Observed at:
Bangkok, Thailand
Lat. 13.73° N, Long. 100.57° E
105° E Mean Time (GMT + 7 hours)

													_
Hour Date	00	01	02	03	04	05	06	07	08	09	10	11	
1	С	С	c	С	С	C	С	С	С	С	С	С	
2	c	c	c	C	c	Ċ	C	c	C	c	č	č	ĺ
3	Ċ	Ċ	c	c	c	Č	c	C	c	Ċ	c	Č	
4	c	Č	c	c	C	Ċ	c	c	C	c	c	c	ĺ
5	Č	c	C	Ċ	c	c	c	c	C	c	c	C	
6	Ċ	c	C	C	Ċ	С	C	С	С	С	c	С	
7	С	c	С	C	С	С	С	С	С	С	С	С	ĺ
8	С	c	С	C	С	С	С	С	С	С	С	С	
9	С	С	С	c	С	С	С	С	С	С	c	С	
10	С	С	С	С	С	С	С	С	С	С	C	С	
11	С	С	С	С	С	С	С	С	С	0	C	С	
12	С	С	С	С	С	С	С	С	С	С	c	С	
13	С	С	С	С	С	С	С	С	С	С	С	С	
14	С	С	В	В	-	С	В	С	С	C	С	G	
15	С	-	В	В	020	A	В	В	В	В	С	В	
16	S	S	В	В	В	M	A	S	-	S	033	035M	
17	В	В	В	В	В	A	В	030	0 <b>30</b>	031M	050M	0 <b>3</b> 9	
18	-	M	-	-	014	A	A	028M	-	031M	В	В	
19	S	В	В	В	С	С	С	С	С	С	С	С	
20	В	В	В	В	018	A	A	-	037	В	038	036	
21	В	020	В	В	A	A	A	В	032	0 <b>3</b> 9	040	G	
22	M	020	~	023	-	019M	В	-	032	В	С	В	
23	В	В	В	016M	В		-	026	034	G	С	G	
24	-	В	016M	A	A	В	В	В	029	G	034	G	
25	_	В	В	В	015	016M	В	023	030	0 <b>3</b> 6	043	048M	
26	В	В	В	021M	A	A	026M	031M	034	B	036	G	
27	В	M			A	A	_	023	036	047M	049M	048M G	
28	B	В	В	M	В	В	В	M	030	035	037 G	042	ĺ
29	018	- M	B M	013	A	M 017	S	B 027	029	048M D039R	040	042 034M	ļ
30 31	B M	M M	M B	B B	012M M	017 017	-	027 025M	030 030	030M	C C	(34m	l
	241	114	В										1
Median	-	-	-	018	015	017	-	027	030	0 <b>3</b> 6	039	039	l
Count	1	2	1	4	5	4	1	8	13	9	10	7	
UQ	-	-	-	022	019	018	-	029	034	043	043	048	Γ
ΙQ		-	-	015	013	016	-	024	030	031	036	035	
QR		-	-	7	6	2	-	5	4	12	7	13	
									L				•

<sup>\*</sup> Tabulation of 036 = 3.6 Mc.

ONOSPHERIC DATA c to 25 Mc in 0.5 minute

10	11	12	13	1.1	15	16	17	18	19	20	21	<b>2</b> 2	23
000000	00000	0 0 0 0 0	0 0 0 0 0	00000	00000	000000	000000	00000	00000	000000	000000	000000	00000
0000	0000	0 0 0	0 0 0	0000	00000	0000	0 0 0	0000	0000	0 0 0	C C C	င င င ဒ	C C C
00000	C C G B	C C 036* G B	C C 039 G B	С С С В	C C G B	C C C G 035	C B B	C C B C	C C 051M C	C C M M	0000	C C C C	C C C C
033 050M B C	035M 039 B C	B C 036 C	036M C 035 B	B C 036 B	B A C B	B C 031 B	033 A 029M S	- A 029 -	- 035M S S	S - S S	5 5 5 5	S S S B	S S S 024
038 040 C C 034	036 G B G	035 B 036 B C	B B 038 G 043	B B 035 G 037	B 036 033 G 034	B 035 G B B	B B B G 027	S B B 023	S B B B	S B B	S B B 026 B	S B B B	036M B B
043 036 049M 037	048M G 048M G	052 G 036M G	055 038 041M 036	054 B 043 G	041M D032R 042M G	054 034 057M D033R	062M 030 040M 030	035M 026M 049M 034M	- B B 025M	B B 025	B B 021 020M	019 B B 027M	B M B 021M
G 040 C	042 034M C	052M 041 035M	063M 038 035M	053M B 036	069 B B	060M 031 031	028 034 028	025 026	B B	022 B B	B B B	039B 026B B	039 M - 030
039 10 043	039 7 048	036 9 046	038 12 049	037 7 053	036 7 042	035 10 054	030 10 034	028 8 035	035 3 043	- 2 -	021 3 024	026 5 033	038
036 7	035 13	035 11	036 13	036 17	033 9	031 23	028 6	026 9	030 13	-	021 3	02i 12	023 15



Characteristic: foEs

10NOSPHERIC DA

Sweep: 1 Mc to 25 Mc in

March 1965

Observed at:

Bangkok, Thailand Lat. 13.73°N, Long. 100.57°E 105°E Mean Time (GMT + 7 nours)

					<del></del> ,							
Hour	00	01	02	03	04	05	06	07	08	09	10	11
Date					_							l
1	С	С	С	С	С	С	С	С	Ç	С	С	С
2	Ċ	c	c	c	c	C	C	C	,	С	Č	c
3	č	c	c	c	C	Ċ	c	c	С	c	Ċ	č
4	c	c	c	c	C	C	C	C	C	C	C	C
5	c	c	c	c	c	C	C	C	C	C	C	c
6	c	Č	Č	c	C	Ċ	Č	Ċ	c	C	c	C
7	Ċ	Ċ	C	Ċ	Ċ	Ċ	C	C	C	C	c	c
8	Ċ	Ċ	Ċ	c	C	Ċ	Č	C	C	c	č	c
9	C	c	C	С	С	С	C	C	С	С	C	C
10	c	c	C	c	c	C	C	C	C	С	c	c
11	c	c	C	C	C	C	C	C	C	C	c	C
12	C	c	C	C	C	C	C	C	C	С	Č	c
13	c	С	C	С	С	С	С	С	С	С	C	c
14	С	С	В	В	023	С	В	С	С	Ü	С	G
15	c	017	В	В	021	024	В	В	В	В	C	В
16	s	s	В	В	В	036M	038M	S	033	S	033	037M
17	В	В	В	В	Б	033	В	030	040	046M	07 UM	043
18	-	030M	018	023	014	030	042	047M	034	040M	В	В
19	s	В	В	В	С	С	С	С	С	C	С	c
20	В	В	В	В	020	023	030	045	037	В	038	042
21	В	020	В	В	030	042	037	В	032	040	040	G
22	047M	031	024	035	023	032M	В	033	038	В	С	В
23	В	В	В	036M	В	018	021	026	034	G	С	G
24	021	В	030M	065M	026M	В	В	В	029	G	034	G
25	023	В	В	В	025	018M	В	023	040	037	043	057M
26	В	В	В	027M	038M	036M	030M	039M	034	В	038	G
27	В	026M	016	030	050M	029	033	023	038	056M	056M	06 OM
28	В	В	В	026M	В	В	В	038M	030	035	038	G
29	025	021	В	013	036	027M	S	В	029	058M	G	044
30	В	041 M	040M	В	O18M	018	023	028	030	DO39R	041	070M
31	04 OM	026M	В	В	030M	022	029	039M	035	036M	С	С
Median	025	026	024	029	025	029	030	033	034	040	039	044
Count	5	8	5	8	13	14	9	033 11	15	9	10	7
UQ	044	030	035	036	033	033	037	039	038	051	043	060
IQ Qi <sup>2</sup>	022	021	017	025	021	022	02€	026	030	037	038	042
At.	22	9	18	11	12	11	11	13	8	14	5	18

<sup>\*</sup> Tabulation of 042 = 4.2 Mc.

DNOSPHERIC DATA to 25 Mc in 0.5 minute

10	11	12	13	14	15	16	17	18	19	20	21	22	23
С	С	c	С	С	С	С	С	С	С	С	С	С	С
С	С	С	c	С	С	С	С	С	С	С	С	С	С
С	c	С	С	С	С	С	С	C	С	С	С	С	C
С	c	С	c	Ċ	c	Ċ	Ċ	С	c	Ċ	Ċ	C	C
c	C	С	c	Ċ	Ċ	C	c	C	c	c	c	Ċ	С
c	Ċ	Ċ	c	Ċ	Ċ	Ċ	Ċ	C	Ċ	c	Ċ	Ċ	c
c	· c	C	c	C	c	Ċ	Ċ	C	C	C	c	Ċ	c
Č	Ċ	c	c	c	C	c	C	Ċ	c	c	c	c	c
c	c	c	Ċ	Ċ	c	c	C	C	c	C	C	c	c
c	c	c	c	c	Č	Ċ	Ċ	Č	c	Č	Č	Ċ	c
C	Ċ	c	c	c	c	Ċ	C	c	Č	Č	Ċ	Ċ	c
Ċ	Ċ	Ċ	c	Ċ	c	c	C	c	Ċ	Č	Ċ	c	Č
c	Ċ	042*	039	Ċ	Č	Ċ	В	В	058M	041M	c	c	c
c	G	G	G	c	G	G	В	C	С	035M	C	c	c
c	В	В	В	В	В	035	043	045M	043	044M	C	Č	C
033	037M	В	039M	В	В	В	033	041	034	S	S	S	S
C70M	043	С	С	С	075M	C	082M	100M	044M	038	S	S	S
В	В	044	040	039	C	033	045M	039	S	S	S	S	s
c	С	С	В	В	В	В	S	035	S	S	S	В	027
038	042	035	В	В	В	В	В	S	S	S	S	S	058M
040	G	В	В	В	036	035	В	В	B	В	В	В	В
C	В	044	040	040	033	G	В	В	В	В	В	В	В
č	G	В	G	G	G	В	G	В	В	В	034	В	В
034	G	C	043	037	034	В	030	032	023M	В	В	036	034
043	057 M	059	062	061	063M	062	080M	047M	022	В	В	029	В
038	G	G	038	В	D032R	035	035	035M	В	В	В	В	023M
056M	06 OM	072M	051M	045	052M	067M	051M	090M	В	В	026	В	В
038	G	G	036	G	G	D033R		05 OM	035M	032	048M	04 OM	049M
G	044	059M	07 OM	063M	072	095M	030	В	-	022	В	039B	039
041	070M	050	038	В	В	031	034	032	В	В	В	042B	032M
С	С	050M	050M	037	В	031	028	028	В	В	В	В	022
	044	050	040	040	044		034	040	025	037	034	039	033
039	044 7	9	12	7	044 8	035 10	12	12	035 7	6	3	5	8
10		9	12		°	10	12	14	<u>'</u>		,	, 	
043	060	059	050	061	068	062	048	048	044	041	041	C41	044
038	042	043	039	037	034	033	030	034	023	032	030	033	025
5	18	16	11	24	34	29	18	14	21	9	11	8	19



Characteristic: h'Es

IONOSPHERIC DAT/ Sweep: 1 Mc to 25 Mc in (

March 1965

Observed at;
Bargkok, Thailand
Lat. 13.73°N, Long. 100.57°E
105°E Mean Time (GMT + 7 hours)

Hour	00	01	02	03	04	05	06	07	08	09	10	11	
Date	0.0	·	V-										
													—
1	C	C	C	C	C	C	C	C C	CC	C	C C	C	
2	C	C	C	C C	C	C	C	C	C	C	c	C	
3 4	C	C	C C	C	C	C	C	C	C	C	c	C	
E I	c	C	c	C	C	C	C	C	C	C	c	ď	
<b>5</b> 6	C	C	C	C	C	C	C	C	C	C	č	Č	
7	c	c	C	C	c	C	C	C	C	c	c		
8	c	c	C	C	C	C	C	C	0.0	C	c	C C	
9	c	c	C	C	C	Č	Ċ	Ċ	С	c	Ċ	Ċ	,
10	c	c	C	C	Č	Ċ	C	c	c	Ċ	Ċ	c	
11	c	Ċ	C	C	C	Ċ	C	c	Ċ	Ċ	Ċ	c	77
12	c	c	Ċ	c	C	C	C	C	C	c	c	C	erationalism.
13	c	Č	Č	Ċ	c	C	C	C	C	c	Ċ	C	ų.
14	Č	c	В	В	115	С	В	C	C	С	c	G	
15	C	130	В	В	130	130	В	В	В	В	С	В	
16	S	S	В	В	В	110	118	S	118	s	110	-	
17	В	В	В	2	В	110	В	110	110	105	100	110	Abres.
18	-	110	105	110	100	100	100	100	110	100	В	В	coult.5s
19	s	В	В	В	С	С	С	С	С	С	С	С	elyto-
20	В	В	В	В	135	130	129	130	150	В	110	105	
21	110	107	В	В	130	110	132	В	140	150	150	G	
22	104	102	110	11/)	110	108	В	110	105	В	С	В	
23	В	В	В	110	В	102	130	130	130	G	С	G	
24	120	В	100	100	100	В	В	В	140	G	110	G	
25	100	В	3	В	100M	120	В	142	100	130	126	125	
26	В	В	В	110	106	102	100	130	140	В	<b>U100</b> S	G	
27	В	110	110	110	100	110	120	110	150	140	138	105	
28	В	В	В	120	В	В	В	110	170	110	160	G	
29	115	210	В	155	125	120	S	В	170	145	G	140	
30	В	120	125	В	150	130	130	140	160	108	170	100	
31	U110S	125	В	В	120	110	110	110	110	110	С	C	
Median	110	110	110	110	115	110	120	110	140	110	118	108	
Count	6	8	5	8	13	14	9	11	15	9	10	6	
UQ	115	123	117	115	130	120	139	<b>13</b> 0	150	142	150	125	
LQ	104	109	103	110	100	108	105	110	110	107	110	105	
QR	11	14	14	5	30	12	25	20	40	35	40	20	

<sup>\*</sup> Tabulation of 100 = 100 km.

ONOSPHERIC DATA c to 25 Mc in 0.5 minute

10	11	12	13	14	15	16	17	18	19	20	21	22	23
0 0 0 0 0	00000	00000	00000	00000	00000	00000	00000	00000	00000	00000	00000	00000	0000
CCC	000	0 0 0	0 0 ū	c c c	0 0	000	0 0	0 0	C C	c c	С С С	C C C	С С С
0000	0000	0000	0000	0 0 0	0000	0000	0 0 0	000	0 0 0	C C C	С С С	С С С	0 0 0
000	C G B	100* G B	100 G B	C C B	C G B	C G 112	B B 110	B C 105	100 C 100	100 105 118	C C	C C	С С
110 100 B C	- 110 B C	B C 100 C	110 C 100 B	B C 100 B	B 115 C B	B C 100 B	130 115 100 S	120 105 100 100	110 150 S S	S 170 S S	S S S	s s s	S S S 110
110 150 C	105 G B	110 B 100	B B 100	B B 100	B 130 100	B 120 G	B B B	S B B	S B B	S B B	S F B	S B B	110 B B
C 110 126 U100S	G G 125 G	B C 122 G	G 126 120 140	G 125 118 B	G 118 115 103	B B 110 120	G 105 110 100	B 100 110 120	B 110 120 B	B B B	120 В В В	B 125 128 B	B 130 B 130
138 160 G	105 G 140	100 G 129	105 140 120	110 G 118	120 G 120	115 125 113	110 120 120	110 112 E	B 120 -	B 110 110	U130S 140 B	B 120 B	B 120 115
170 C	100 ເ	100 100	170 100	B 100	P B	150 ∴00	130 130	120 120	B B	B B	B B	120 B	110 110
118 10	108 6	100 9	115 12	110 7	117 8	114 10	113 12	110 12	110 7	110 6	130 3	123 4	113 8
150 110 40	125 105 20	116 100 16	135 100 35	118 100 18	120 109 11	120 110 20	125 108 17	120 103 17	120 100 20	118 105 13	140 120 20	127 120 7	125 110 15



Characteristic: Type of Es

IONOSPHERIC DA Sweep: 1 Mc to 25 Mc i

March 1965

Observed at:

Bangkok, Thailand Lat. 13.73°N, Long. 100.57°E 105°E Mean Time (GMT + 7 hours)

Hour Date    Date   OO   O1   O2   O3   O4   O5   O6   O7   O8   O9   10   11													
1		00	01	02	03	04	05	06	07	08	09	10	11
2	<del></del>							_	_				
3			1						_				_
4								_	_	l			_
5							1	_	_	_	_	_	_
6						_	_		_	_	_	_ '	_
7		i				_	_	_	-	-	_	-	_
8	1	_	_	_	-	_	_	_	_	-	-	-	-
9		-	_	-	_	_	_	-	-	-	-	_	-
10		-	_	-	-	-	-	_	-	-	-	-	_
112		_	_	-	-	-	-	_		-	-	-	-
12		-	-	-	-	-	-	-	-	-	-	-	-
14		-	-	-	-	-	-	-	-	-	-	-	-
15		-	-	-	-		-	-	-	-	-	-	-
16	14	-		-	-		-	-	-	-	-	-	-
17		-	f	-	-	f			-	-	-	-	-
18       -       f       f       f       f4       f3       f2       l       l       - <th></th> <th>-</th> <th>-</th> <th></th> <th>-</th> <th>-</th> <th></th> <th>f</th> <th>_</th> <th></th> <th></th> <th></th> <th></th>		-	-		-	-		f	_				
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20		-	î	f	f		1			1			
21       f       f       f       f       f       f       c       c       c       c         22       f2       f4       f2       f2       f       f       -       f       l2       -       l       -         23       -       -       -       12       -       f       f       c       c       -		-	-	-	-		i I		1	1	-		
22     f2     f4     f2     f2     f     f     -     f     l2     -     l     -       23     -     -     -     12     -     f     f     c     c     -     -     -       24     f     -     f     f4     f     -     -     c     -     c     -       25     f     -     -     -     f2     f     -     c     lc     c     c     c       26     -     -     -     f6     f5     f4     f     c2     c     -     l     -       27     -     f     f     f4     f2     f     lc     c     c2     c2     c2       28     -     -     -     f     f7     f     -     -     h     c2     -     c       30     -     f     f     -     f     f5     f2     c     c     lc     c     l       31     f     f     -     -     -     -     -     -     -     -     -     -       Count     -     -     -     -     -     -     -     -     <			1	-	-				f		1		L
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24     f     -     f     f4     f     -     -     -     c     -     c     -     c     -     c     -     c     -     c     -     c<			1								í		
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26     -     -     -     f6     f5     f4     f     c2     c     -     l     -       27     -     f     f     f4     f2     f     lc     c     c2     c2     c       28     -     -     -     f     -     -     l     l     lh     h     -       29     f     f     -     f     f7     f     -     -     h     c2     -     c       30     -     f     f     -     f     f5     f2     c     c     lc     c     l       31     f     f     -     -     f     f3     f     l     l     l     -     -       Median     -     -     -     -     -     -     -     -     -     -     -     -     -     -       UQ     -					l i		1						
27     -     f     f     f     f2     f     lc     c     c2     c2     c       28     -     -     -     f     -     -     l     l     lh     h     -       29     f     f     -     f     f7     f     -     -     h     c2     -     c       30     -     f     f     -     f     f5     f2     c     c     lc     c     l       31     f     f     -     -     f     f3     f     l     l     l     -     -       Median     -     -     -     -     -     -     -     -     -     -     -       Count     -     -     -     -     -     -     -     -     -     -     -     -       LQ     -     -     -     -     -     -     -     -     -     -     -     -		i					•	l		1			
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OSPHERIC DATA to 25 Mc in 0.5 minute

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MEDIAN VALUES MARCH 1965

h'Es (km)	110	110	110	110	115	110	120	110	140	110	118	7.08	100	115	110	117	114	113	110	110	110	130	123	113
foEs (Mc)	2.5	2.6	2.4	2.9	v	•	3.0	3.3	3.4	4.0	3.9	4.4	5.0	4.0	4.0	4.4	3.5	3.4	4.0	3.5	3.7	3.4		3.3
fbEs (Mc)	1	•	1	1.8	1.5	1.7	ı	2.7	3.0	3.6	3.9	6	9.5	3.8	3.7	3.6	3.5	3.0	2.8	3.5	•	2.1	5.6	3.0
), 'E (km)	ı	ı	ı	ı	1	ı	ı	ı	1	ı	i	120	120	120	120	120	120	ı	ı	ı	1	ı	ł	,
for *	-	1	ı	ı	ı	ı	1	ı	1	ı	1	1	1	1	1	!	ı	ı	ı	ı	1	ı	1	-
M(3000)F1	ı	1	1	1	ı	ı	1	ı	ı	3.88	3.90	4.00	4.00	4.10	3.97	3.85	1	1	ı	ı	ı	ı	ı	1
foF1 (Mc)	1	ı	ı	ı	1	1	1	ı	1	4.2	4.4	4.5	4.5	4.4	4.4	4.3	,	ı	ı	ı	,	1	ı	-
h'F (km)	242	220	210	220	240	290	300	240	230	220	210	202	200	200	200	200	228	235	260	280	290	240	232	240
h'F2 (km)	ı	1	ı	1	1	1	1	ı	285	315	336	353	350	355	340	320	298	1	1	1	1	1	ı	1
M(3000)F2	3.30	•	•	3.45	•	3,45	3.10	•	3.25	•	•	2.60	2.60	2.60	2.65	2.80	3.00	3.00	3,00	2.85	2.90	3,15	•	3,13
foF2 (Mc)	į٠	•	•	•	•	•	•	•	7.3	•	•	•	7.4	7.8	•	9.1	•	9.6	•	0.6	•	•	•	
fmin (Mc)	1.9	1.5	1.3	1.2	1.3	1.5	•	2.3	2.8		•	•	3.1	•			•		•	2.3	•	•	•	
Hour Local	00	01	8	ივ	94	05	98	0.2	80	60	01	11	12	13	#.1	15	16	17	8	19	20	21	22	23

\* Insufficient data for reliable median.

# IONOSPHERIC DATA MONTHLY MEDIAN CHARACTERISTICS BANGKOK, THAILAND MARCH 1965

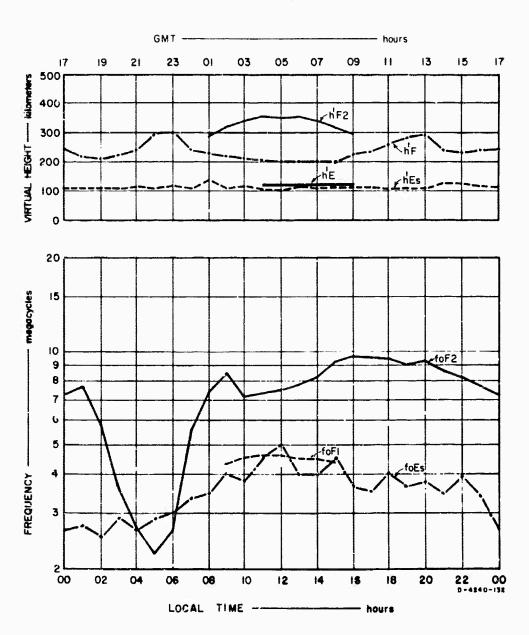


FIG. 1 SUMMARY GRAPHS

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